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TRANSITIONING ADULTS FROM A TUBE-FEEDING TO AN ORAL FEEDING
IN LONG-TERM CARE FACILITIES

A Thesis

by

PATRICIA D. MEJORADO

Submitted to the Graduate College of
The University of Texas Rio Grande Valley
In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

May 2018

Major Subject: Communication Sciences and Disorders

TRANSITIONING ADULTS FROM A TUBE-FEEDING TO AN ORAL FEEDING
IN LONG-TERM CARE FACILITIES

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May 2018

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ABSTRACT

Mejorado, Patricia, Transitioning Adults from a Tube-Feeding to an Oral Feeding in Long-Term Care Facilities. Master of Science (MS), May 2018, 65 pp., 8 tables, 13 figures, references, 59 titles.

The objective of this investigation is to gain information regarding the transition of adults from a tube feeding to an oral feeding in long-term care facilities. Twelve surveys were administered to the speech language pathologist population from the UTRGV and UTPA communication sciences and disorders alumni via email invitation. The survey consisted of questions regarding: years practiced in long-term care facilities, interdisciplinary collaboration, protocol and/or algorithms for transitioning patients from a tube feeding to an oral feeding, documentation programs, access to meal intakes, the SLP's role in the transition to oral feedings, and areas of concerns regarding the transition from a tube feeding to an oral feeding. Long-term care SLPs indicated that is minimal interdisciplinary collaboration, multiple problems with patients that arise such as decreased appetite, weight loss, and dehydration, and that facilities would benefit from a protocol/algorithm when transitioning patients from a tube feeding to an oral feeding.

DEDICATION

The completion of this thesis would not have been possible without the love and support of my family and dear friends. Thank you for the love and support that you provided me in obtaining this degree. To my first and most important teachers in life, my parents, Jesse and Mary. Thank you for always encouraging me to continue my education and pursue my dreams. I was able to do the impossible and keep my promise to you and grandma. I hope to always make you proud, these degrees are for you. To my sisters, Melissa, Jessica, Li-Anna, and my brother, Adrian, thank you for always being there for me when I needed it the most. You can always choose your friends but not your siblings, and I am so grateful that God chose you for me. To my in-laws, Emma, Rolando, Rolz, Claudia, Joemma, Paul, Sarah, and Johnny, thank you for being a very special and important part of my life. I am so grateful that my family has grown with so many amazing people. To my beautiful niece Lovely and my nephews Gavyn, Paul Michael, Jayden, Johnathan, Jonathan, Jacob, and Jett, I hope this encourages you to reach your goals and dreams. I'm sorry that I missed many moments these last several years, but I look forward to watching you all grow up into amazing people. I love you all more than you'll ever know! To my Benny and Daisy, mommy loves you both, thank you for sitting by my side and giving me so much love and support through this all. Lastly, I dedicate this thesis to my best friend, my dear husband Marco. Your love, care, support, patience, and encouragement pushed me to reach my maximum potential. Without you none of this would have been possible.

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I would like to thank my classmates, thesis colleagues, professors, clinic supervisors, and externship preceptors. Your knowledge, encouragement, and support throughout these last few years have encouraged me to pursue the journey and completion of this thesis.

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CHAPTER I

INTRODUCTION

In the field of speech language pathology, an overall goal for a speech language pathologist (SLP) is to ensure that an optimal quality of life is achieved for each patient that is treated. Adults that reside in long-term care facilities may be treated by an SLP to target goals for cognition, receptive and/or expressive language, voice, as well as dysphagia. Often patients that are treated for dysphagia are either receiving a modified diet and/or alternate means of nutritional support such as enteral nutrition.

Enteral nutrition (EN) support is utilized when an individual does not have an adequate oral intake of calories, decrease in appetite, swallowing difficulty, and/or a surgical procedure that interferes with the ability to eat (Boullata et al., 2017). EN support, or a tube feeding, is a form of alternate nutrition system providing nutrition into the gastrointestinal (GI) tract by bypassing the oral cavity. Various forms of EN support include delivery sites with route to the gastric or intestinal tract via gastrostomy such as a percutaneous endoscopic gastrostomy (PEG), jejunostomy, or transgastric, meaning both G/J tube, provided as a bolus, continuous, and/or intermittent feedings. EN support is widely used in patients of all ages in various settings such as acute care, rehabilitations, long-term care facilities (i.e., skilled nursing facilities), and at home. Many of these patients often have goals to be re-introduced or trialed with oral feedings. Transitional feedings are utilized with patients when transitioning from a tube feeding to an oral feeding.

A transitional feeding is the progression from one feeding to another while ensuring that a patient continues to meet their nutrition requirements. Various factors are taken into consideration when a patient transitions from a tube feeding to an oral feeding. This includes but is not limited to: the patient's prognosis, level of severity of swallowing, safety returning to an oral diet, and collaboration among different disciplines. Factors are the patient's overall prognosis, whether acute or chronic, to determine the least restrictive diet. The primary goal should be to ensure that the patient's safety is maximized when returning to oral intake through the use of rehabilitation with therapy. Various agencies provide guidance in the transition from a tube feeding to an oral feeding such as the American Society for Parenteral and Enteral Nutrition (ASPEN), American Speech-Language-Hearing Association (ASHA), and the Academy of Nutrition and Dietetics (AND).

The Center for Medicare and Medicaid Services (CMS), Nursing Home Data Compendium 2015 Edition reported that the prevalence of patients with a tube feeding decreased from 5.9% to 5.4% from 2011 to 2014 respectively. Studies have shown that transitional feeding protocols and algorithms, from enteral nutrition to oral feedings, have shown positive nutritional outcomes in critical care patients in acute care settings (Grossman and Bautista, 2001). In an acute care facility, the Chedoke Campus of the Hamilton Health Sciences Corporation utilized a two-phase algorithm, preparatory and weaning to wean patients off a tube feeding to an oral feeding. As the initiation of this is evident in an acute care setting, upon the search for protocols and algorithms for long-term settings it is apparent older adults living in long-term care facilities (i.e., nursing home, skilled nursing facility) are also at high risk for weight loss and re-insertion of tube-feeding placements (Posthauer, Dorner, and Friedrich, 2014). The risk of weight loss, malnutrition, and dehydration is a concern for residents transitioning from a tube-feeding to an

oral feeding in long-term care facilities. An interprofessional collaboration between the Speech Language Pathologist (SLP) and the healthcare team is essential in transitioning a patient from a tube-feeding to an oral feeding.

The prevalence of malnutrition in nursing home facilities are associated with several influences. In a review by Bell, Lee, & Tamura (2015) of cross-sectional studies of nursing home patients a diagnosis of malnutrition ranged from 1.5-66.5% with an average of 21.4% of patients. Factors linked with an increased and decreased risk of malnutrition is listed in table 2. The authors of this review indicated that in their article review, by targeting four modifiable risk factors the risk of malnutrition reduces greatly. This includes functional impairment, cognitive impairment or dementia, swallowing problems, and depression or apathy, all of which can be targeted in therapy by an SLP.

The purpose of this study is to determine whether long-term care facilities utilize a protocol or algorithm when transitioning a patient from a tube feeding to an oral feeding to decrease the risk of malnutrition and other nutrition and hydration deficiencies. This research was conducted in order to assess the availability and implementation of a transitional feeding protocol or algorithm, from EN to an oral feeding, in a long-term care facility and the role of the SLP during this transition.

CHAPTER II

REVIEW OF LITERATURE

The rise of malnutrition in long-term care facility resident's results in significant weight loss, dehydration, and poor oral intake in the adult and geriatric population. Through collaboration between the Speech Language Pathologist and the health care team, a resident's individualized care becomes essential when transitioning from a tube feeding to an oral feeding in order to decrease these risks. Upon evaluation, when the SLP determines that the tube-fed resident is safe for a modified oral diet, the health care team will provide input in the plan of care to wean the patient off the tube-feeding as oral intake increases.

Different entities and facilities provide guidelines and regulation on critical care tube feeding protocols/algorithms, nutritional status, interprofessional collaboration, prevalence of tube feedings in long-term care facilities, and process of transitional feedings among facilities. These are all important in long term facilities in determining an individualized a plan of care for the patient's transition from a tube feeding to an oral feeding.

Background information was gathered from nine different databases which include: Communication Sciences and Disorders Dome (ComDisDome), Communication and Mass Media Complete, MEDLINE, Sage Publications, ASPEN, Science Direct, ASHA, Journal of the Academy of Nutrition and Dietetics (AND), and Google Scholar. The articles obtained from those sources varied on publication dates from January 1992 to December 2017. In order to obtain further information, questions were developed from published research studies and

implemented in a survey created specifically targeting SLPs currently working in long-term care facilities.

CHAPTER III

USE OF MODIFIED DIETS AND ENTERAL NUTRITION

Long-term care facilities utilize diets modified by texture and/or consistency as well EN support for patients with a variety of medical etiologies. It is estimated that 30% of patients in skilled nursing facilities (SNF) have difficulty with eating or drinking (Castellanos, Butler, Gluch, & Burke, 2004) while up to 68% of elderly patients in nursing homes are affected with dysphagia (Steele, Greenwood, Ens, Robertson, & Seidman-Carlson, 1997). The use of modified diets and enteral nutrition supports may provide many benefits, however it is not without controversy and may also cause complications with extensive use.

Indicators for Modified Diets and Alternate Feeding

There are different reasons as to why a patient would be initiated with alternate nutritional support. As discussed before, the overall goal is to ensure an optimal quality of life, such as returning from a tube feeding to an oral feeding. This varies case by case for each individual. In the field of speech language pathology, the level of severity in dysphagia in patients plays a role in the decision making to consider alternate means of nutrition support. Aspiration and penetration observed during any type of diagnostic testing such as a modified barium swallowing study (MBSS) or even a fiberoptic endoscopic evaluation of swallowing (FEES) will help the SLP determine the recommended diet, modified or not and/or alternate

means of nutrition support in the plan of care. Conditions where gastrostomy feeding is considered are displayed in table 3.

Modified Diets

Modified diets consist of modifications of textures and consistencies. The National Dysphagia Diet (NDD) was published by the American Dietetic Association (ADA), now known as the Academy of Nutrition and Dietetics (AND) in 2002. The NDD panel consisted of a group of SLPs, RDNs, and a food scientist. A four-level hierarchy (displayed in table 5) was developed to establish common terminology of solid and semisolid foods (McCullough, Pelletier, & Steele, 2003). In order to establish common terminology for individuals of all ages with dysphagia, the International Dysphagia Diet Standardization Initiative was developed in 2012. Table 6 displays the IDDSI framework of this diet consists of eight levels (0-8). Levels 0-4 consists of drinks or liquids, while levels 5-7 measure food (Marcason, 2017).

The use of thickener comes in a variety of products. Whether using corn or tapioca-based powders requiring preparation or ready prepared thickened liquids, it is important to keep in mind there is always a risk of noncompliance, aspiration, and dehydration. In a study of patients who suffered a stroke and were diagnosed with dysphagia, it was found that the use of thickened liquids may affect a patient's fluid intake. These patients are more likely to be noncompliant with the fluid recommendations or display a decrease in fluid intake resulting in complications such as dehydration (Goulding & Bakheit, 2000; Pelletier & Lawless, 2003; Whelan, 2001).

Enteral Nutrition

Enteral nutritional support was developed as used as early ancient Egyptian times using enemas consisting of “wine, milk, whey, wheat, and barley broths” to treat diarrhea (Harkness, L., 2002). Today many forms of nutrition support are found to be used with individuals of all ages. Adults receiving EN support include those with degenerative diseases, acute neurological disorders (i.e., CVA), as well as neck and head cancers (Naik, Abraham, Roche, & Concato, 2005). There is controversy in regard to the use of tube feedings in order to improve nutrition and hydration status to prolong life in the addition to the risks outweighing the reward. The patient’s overall status and prognosis will determine whether or not enteral nutrition is warranted or beneficial to a patient with the goal of returning to an oral diet. The long-term use of enteral nutrition support is controversial and may cause complications.

Such controversy occurred in a study displaying bias from researchers and defying the use of EN support. In a review of a study conducted, researchers found that there was a high mortality rate in patients over the age of 60 years old with use of a PEG tube. Although the original authors of the study implied that the death of these participants were not related to the use of a tube feeding, and that their prognosis played a factor, it was implied and questioned as to why these patients resorted to the use of a tube feeding. The authors concluded in their review that the use of a PEG tube as intervention can be seen as a burden. (Henderson, Trumbore, Mobarhan, Benya, & Miles, 1992). The reviewers of this study stated that a comparison group would be required in order to determine whether or not the use of a PEG tube plays a role in the mortality rate of patients (Finucane, Christmas, 2000). There are many factors that play a role in the mortality of patients receiving EN support, but this should not be considered an isolated contributing event.

Nutritional Concerns

Various nutrition concerns may arise from an oral diet. For patients with dysphagia, eating and drinking requires additional time and effort. According to Heiss, Goldberg, and Dzarnoski (2010), aspects that may contribute to increasing the risk of dysphagia include “inadequate food and/or fluid intake, aspiration pneumonia, and decreased cognitive and internal organ function” (p. 1290). In addition, patients resuming an oral diet may result in the fear of eating or drinking increasing risks of choking and aspiration. Additional risks may resume with an initiation of an oral diet.

According to Crary & Grober (2003), concerns with the overuse of thickening liquids may lead to dehydration in the elderly as at times compliance is often reduced. This may lead to two different scenarios. First, if the individual is not complying with the recommendations, it may lead to an increased risk of pneumonia. Secondly, if the patient continues with a decreased consumption of the thickened liquids, there is an increased risk of dehydration. In some facilities the Frazier Water Protocol is utilized for patients requiring thickened liquids (Panther, 2008). This protocol has recently become part of dysphagia treatment and has been shown to reduce dehydration and chest infections in the elderly.

The use of dysphagia therapy has shown to be effective in increasing safe oral intake while decreasing the risk of pneumonia (Crary, Sura, Madhavan, & Carnaby-Mann, 2012). It is essential for the SLP to understand and know the effects of recommendations for a modified diet and resumption of oral feedings. Different factors play a role in determining the initiation of alternate means of nutrition support and the resumption of oral feedings. Prior to understanding the role of the SLP in transitioning a patient from a tube feeding to an oral feeding, it is crucial to understand organization positions to ensure that best practice is followed.

CHAPTER IV

ORGANIZATION POSITIONS AND GUIDELINES

Swallowing difficulty, or dysphagia, may arise as a result of a neuromuscular disorder or event leading to oral and/or pharyngeal deficits. Older adults may be at risk as part of the aging process or from disease. A delay, misdirection, or miscoordination of food and/or liquids when transferring from the oral cavity to the stomach may result as a part of these deficits (Heiss, Goldberg, and Dzarnoski, 2010). Various organizations provide guidance in regard to the monitoring of EN support and transitional practices when appropriate.

The American Society for Parenteral and Enteral Nutrition (ASPEN) was founded with the “purpose of providing optimal nutrition to all people under all conditions at all times” (History of Aspen, nd). Boullata, Carrera, Harvey, Escuro, Hudson, Mays, ... & Kinn (2017) indicate that ASPEN practice recommendations for nutrition support include addressing and establishing a goal to transition EN support to a diet in a hospital, home, or alternate care site, such as long-term care facilities. This can be further developed into a supplementary order to meet the patient’s needs in the established facility. This may include but not be limited to elevation of the head of bed (HOB), gastric residual volume (GRV) checks, and monitoring of lab values. In addition, the inclusion of transitional feeding goals should be initiated to allow for “incremental decreases in formula volume over a period of time to accommodate for an increasing oral feeding” (Bankhead, Boullata, Brantley, Corkins, Guenter, Krenitsky, ... &

Wessel, 2009, p. 126). Table 4 indicates the safe practices for transitioning a patient from EN support to an oral feeding.

The Academy of Nutrition and Dietetics' (AND) position on feeding and hydration reflects on proper ethical practices for patient's receiving EN support. When EN support is initiated, professionals should reflect back on patient goals and ask, what is the desired outcome for this patient? Patient goals consist of ensuring that a patient is provided with adequate nutrients for weight maintenance, achieving a goal weight and/or muscle mass, and receive adequate hydration (Maillet, Schwartz, & Posthauer, 2013). An ethics committee within the long-term care facility should establish rules and guidelines while an RDN meets with the committee to discuss decisions regarding EN support. This should include the transition from a tube feeding to an oral feeding.

The American Speech-Language-Hearing Association Special Interest Division 13 indicates that the SLP must be familiar with both supplemental and alternate forms of nutrition and hydration options. It is however, the physician and RDN that determine the specific nutrition recommendations. The SLP will provide recommendations in regard to the patient's oral and pharyngeal swallowing function and tolerance of an oral diet. Both areas will coincide with one another in the determination of the route of the plan of care (Krival, McGrail, & Kelchner, 2008).

Overall ASPEN, AND, and ASHA all come back to once key element, collaboration with other disciplines in the establishment of an appropriate plan of care, patient established goals, and continuous re-assessing and follow-ups. With the collaboration of disciplines involved in the transitioning from a tube feeding to an oral feeding, it is important to know the role of the SLP and the interdisciplinary team.

CHAPTER V

INTERPROFESSIONAL COLLABORATION

In a healthcare setting, multiple disciplines involved in a patient's plan of care establish goals to achieve the greatest outcome given the patient's overall health status. An interdisciplinary team incorporates interprofessional collaboration (IPC) among health care professionals. This may include the physician, speech language pathologist, registered dietitian and nutritionist, nurse, occupational therapist, physical therapist, etc. The IPC between the SLP and the health care team is an essential part of a patient's care plan when transitioning from EN support to an oral feeding (Heiss, Goldberg, and Dzarnoski, 2010). Each discipline plays a certain role in a long-term care setting and the SLP as part of a routine practice can help increase the strength of the collaboration.

Role of the Speech-Language Pathologist

A Speech-Language Pathologist is a professional with a master's degree from an accredited program in communication sciences and disorders meeting requirements such as completion of a clinical practicum, passing of a national examination, and completion of a clinical fellowship. According to ASHA, when working with children and adults, SLPs diagnose and treat different disorders, including speech, language, cognition, social communication, and swallowing disorders. (Speech-Language Pathologists: About Speech-Language Pathology, n.d.). Swallowing disorders is a major area that requires the clinical competency in feeding and

swallowing (oral, pharyngeal, esophageal) and other related functions. SLPs may work in research, education, and healthcare settings.

In a healthcare setting one area of assessment involves an SLP assessing a patient's swallowing ability to determine the least restricted diet. If a patient presents with signs and symptoms of dysphagia, the SLP will determine the appropriate texture of food and consistency of liquid for the diet. This can be done by first following up with a bedside swallow study to determine if the patient requires additional testing such as a modified barium swallow study (MBSS).

The American Speech-Language-Hearing Association (ASHA) Code of Ethics was established to reflect the professional's expectations in practice to ensure that SLPs, SLP-As, and Audiologists perform the duty of their profession, take accountability and, be fair as well as responsible in their practice. In addition, the ASHA Code of Ethics was established to ensure that the professional's reputation and integrity is maintained while maintaining the wellbeing of the consumer. There are two rules under the ASHA Code of Ethics that reflects effective collaboration on part of the SLP. First, the Principle of Ethics I, Rule of Ethics B states that, the professional will and when appropriate ensure that quality service is provided by implementing referrals, collaborating with other professionals, and using every resource to perform. Secondly, the Principle of Ethics IV, Rule of Ethics A states that, in order to provide high quality of care, professionals must collaborate with others in their own field as well as others in different professions (American Speech Language Hearing Association, 2016).

In long-term care facilities, many patients on EN support, whether bolus or continuous, continue to receive speech therapy services in the areas of cognition, language, and/or swallowing. Providing therapeutic intervention to safely return patients to oral feedings without

signs or symptoms of aspiration is often a long-term goal. In addition, the SLP will assess the patient's cognition and swallowing to determine their rehabilitation potential. This ensures that the SLP will continue to assess and follow up on the patient's readiness to resume an oral diet. Recommendations will include diet modifications of texture, consistency, and schedule of meals. By ensuring that therapeutic intervention in maintaining adequate oral intake, SLPs can determine whether oral intake of meals is sufficient or if alternate means of nutrition continues to be warranted.

Documentation and Communication

Transition of documentation from a paper system to an electronic medical record (EMR) helps transition care to a more efficient and effective communication process between different disciplines. With change in technology, quick and adequate access to medical records will allow for clear documentation of an SLP's recommendations for the safest least restrictive diet as well as outline the risks and consequences (i.e., pneumonia, choking, etc.) with the patient and their family/caregivers (Quagliarello, Ginter, Han, Van Ness, Allore, & Tinetti, 2005). In addition, this form of communication will allow for effective interprofessional collaboration from the SLP to the health care team and vice versa. Review of medical records and the update of orders in an electronic or paper system will ensure that the SLP has the most up to date information such as orders for speech services, diet, supplements, as well as reviewing the patient's meal intake.

Effects of a Collaboration

Interprofessional collaboration is essential in health care facilities. When a patient presents with dysphagia, an SLP will collaborate with the health care team to determine the appropriate food texture and liquid consistency that can safely be consumed. To formulate an effective collaboration, SLPs must understand the expertise of each profession to ensure an appropriate and safe care plan. Through the use of effective dysphagia treatment utilizing an effective interprofessional collaboration, dysphagia treatment can be successfully managed.

To ensure an effective collaboration among the interdisciplinary team, it is best for the SLP to have an understanding of the role of each discipline during a patient's transition from a tube feeding to an oral feeding. This would include, for instance, educating an RDN of the warning signs of dysphagia and knowing when to trigger a consultation to an SLP. An SLP may provide guidance to help determine the patient's risk for aspiration on an oral diet. Additional imaging studies, such as a FEES or an MBSS as well as the use of compensatory strategies recommended by the SLP will be necessary to determine the least restrictive diet for a patient if safe for oral feedings (Crary *et al.*, 2012). Such compensatory strategies may include diet modifications, thickening liquids, swallowing maneuvers, and postural adjustments.

Risks of aspiration may be a quality of life issue for some patients. When a patient is deemed unsafe for an oral diet, alternate means of nutrition support may often be recommended. Establishing a plan of care with the RDN will determine whether a patient continues with an oral diet or receives EN support. The RDN will provide recommendations for an appropriate formula and rate/amount to meet the patient's estimated nutritional and fluid needs. When working with patients, the SLP may often conduct dysphagia therapy. Additional action would be to request an imaging study to re-assess the patient's swallow. Oral feeding trials of liquids of different

consistencies (i.e., regular/thin, nectar, honey) and/or foods of different textures (i.e., pureed, mechanical soft, hard solid) will be implemented by the SLP with approval from the physician. These feeding trials will allow the SLP to monitor a patient's tolerance of the oral diet, implementation of compensatory strategies, and for signs and symptoms of aspiration during the feeding trial.

To determine the readiness for a proper transition from a tube feeding to an oral feeding, it is important for the SLP to understand the role of each discipline involved in the transition. This among adequate review of the medical record, providing adequate documentation, and ensuring clear communication among the interdisciplinary team will prove to be beneficial in the patient's transition.

CHAPTER VI

CURRENT PRACTICE OF TRANSITIONING FROM ENTERAL NUTRITION TO ORAL FEEDINGS

The American Society for Parenteral and Enteral Nutrition (ASPEN) Safe Practices for Enteral Nutrition Therapy, listed in table 4 indicates the transition of EN support to oral feedings is based on several practice recommendations. According to Boullata et al. (2017), supplementary orders may be developed within each individual facility to meet the needs of patients or residents in their facilities to assist with the transition from EN to an oral diet. In addition, transitional orders that constitute the transition from EN to an oral feeding by decreasing the tube feeding over an indicated period of time as there is an increase in oral intake. ASPEN guidelines for transitioning from enteral nutrition to an oral feeding should be discussed in an interdisciplinary manner. This includes the expertise and recommendations made by Speech Language Pathologists (SLP) prior to and during the transition.

Intervention Prior to Transitioning

Several factors must be considered prior to transitioning a patient from EN support to an oral feeding. These interventions include: environmental, cognitive, skilled speech therapy, skilled occupational therapy, eating behavior, nutrition, assistive and adaptive. Additional factors include the patient's ability to manage their own secretions, making requests for food and beverages, and most importantly being alert and able to follow directions. Most importantly,

establishing a plan of care and including patient driven goals with all of these considerations kept in the plan of care during the transition process.

All cases must be evaluated to determine if a patient will be able to resume an oral diet. An outline of a plan of care should be developed and established from the start among the interdisciplinary team with the patient and/or family/caregiver. If a patient is showing difficulty transitioning or being too aggressive with the transition to an oral feeding, the diet may be downgraded or perhaps discontinued. The SLP plays a key role in determining readiness for the transition to keep the patient safe from the risks of aspiration and choking. It is impossible to predict how a patient will tolerate the transition from a tube feeding to oral feeding. Removing a tube from the site too soon may cause many complications once oral feedings have been established. Many patients would prefer to continue with EN support in case oral intake is not at an optimum level. Table 4 are suggestions provided by ASPEN in the transition from a tube feeding to an oral feeding (Bankhead, R., *et al.*, 2009)

Transitioning from Enteral Nutrition Support to Oral Feedings

Transitioning a patient from a tube feeding to an oral feeding requires multiple steps to take to ensure the patient's readiness of an oral diet. The first step should be to determine the patient's readiness to transition from a tube feeding to an oral feeding, this can be done using an interdisciplinary approach. According to Posthauer, Dorner, & Friedrich, (2014), an interdisciplinary team must work together to establish the patient's ability to initiate and tolerate an oral diet. The physician, nursing staff, RDN, dietary manager and SLP must collaborate to determine which patients are candidates for this transition. As previously discussed the interdisciplinary team must communicate the plan of care for this transition to the physician to

ensure that orders are correctly documented. This would include the diet texture and liquid consistency recommended by the SLP, tube feeding recommendations by the RDN, and appropriate documentation of meal intake by the nursing staff (i.e., RN, LVN, CNA, etc.).

CHAPTER VII

METHODOLOGY

To identify Speech Language Pathologists' (SLP) perceptions regarding current practices regarding transitional feedings, from a tube feeding to an oral feeding, in long-term care facilities, SLPs were contacted via email to complete a survey in regard to current practice in their facility regarding transitional feedings. A letter of participation was obtained from the University of Texas Rio Grande Valley (UTRGV) Communication and Sciences Disorders program for access to the University of Texas Pan American (UTPA) and UTRGV Communication and Sciences Disorders program alumni email list. This study was approved by the Institutional Review Board (IRB) in December 2017. Upon approval, participants were recruited via email invitation utilizing an email recruitment script. Inclusion for participation required that the participant is an SLP and employed at least part time in a long-term care facility such as a nursing home, skilled nursing facility, long-term care facility, etc.

A total of sixty-two surveys were distributed to the SLP UTPA and UTRGV alumni population via email. There were 12 surveys returned for a return rate of 19.4%, however only 10 surveys were completed by the participants meeting a participation rate of 16.1%. Participants included male and female adult Speech Language Pathologists (SLP) with an age range of 18 years and older, specializing in long-term care facilities.

The survey was created through review of research articles. Survey components were drawn from these sources to form a balanced survey tool regarding the use of transitional

feedings, protocols or algorithms in place for residents weaning off a tube feeding to an oral diet, interprofessional collaboration, knowledge of malnutrition, weight loss, dehydration and other comorbidities. Additionally, questions specific to the investigation's research question were added. The survey's focus was perception based and asked the participants questions regarding their current practice in their long-term care facility. Prior to the start of the survey, each participant was provided with a consent form indicating their participation with the survey. If the participant agreed to participate they proceeded to the survey questions. If the participant declined to participate in the survey, the survey was ended.

The survey consisted of 14 questions, listed in Table 7, covering criteria regarding interdisciplinary collaboration, protocol and/or algorithms for transitioning patients from a tube feeding to an oral feeding, documentation programs, access to meal intakes, SLP role in transition of feeding, and areas of concerns regarding the transition from a tube feeding to an oral feeding. The final portion of the survey consisted of an optional comment section regarding the survey and a reminder that all comments would be kept confidential. Participants answered a variety of survey questions using yes/no, multiple choice, and open-ended responses. The data obtained was analyzed via quantitative analysis via Qualtrics and Microsoft Excel. Data was reported anonymously via descriptive statistics. The frequency of the participant's responses and central tendencies, including the mean, median, and mode, were analyzed.

CHAPTER VIII

RESULTS

A total of 12 participants consented to participate in the present study, however 2 of the 12 participants (16.7%) did not complete the survey. All participants of this survey are currently SLP's in a long-term care facility. Table 7 displays the questions that were provided on the survey. Figure 1 displays the participant's responses to the years practiced as an SLP in a long-term care facility. Most of the participants have practiced in a long-term facility for 6-10 years (n = 5, 50.0%) followed by <5 years (n = 2, 20.0%), 21+ years (n = 2, 20.0%), 16-20 years (n = 1, 10.0%), and 11-15 years (n = 0, 0.0%).

Communication with other disciplines and access to a patient's medical records in figure 2 displays the medical record that the participants utilize to document their diagnostic and progress notes. Rehab Optima (n = 4, 40.0%) was the program utilized by the majority of the participants followed by a paper system (n = 3, 30.0%). The remainder of the participants utilize Practice Partner (n = 1, 10.0%), Point Click Care (n = 1, 10.0%), EPAC (n = 1, 10.0%) for their documentation. Figure 3 displays the participant's access to a patient's meal intake, diet orders, supplements, etc. from the indicated program (medical record) where the participants document their notes. Most participants indicated that they have access (n = 7, 70.0%) while remaining participants indicated that they did not have access (n = 3, 30.0%). In order to obtain access, participants indicated that they asked the patient's nurse (n = 3), family/friends (n = 3), a certified nursing assistant or CNA (n = 2), the patient (n = 2), and asking dietary staff (n = 1).

Additional responses include utilizing intake sheets (n = 1) and checking Point Click Care or PCC (n = 1), see figure 4.

In figure 5, many of the participants indicated that they do not have a protocol/algorithm in place to transition a patient from a tube feeding to an oral feeding in their facility (n = 7, 70.0%). The remaining participants (n = 3, 30.0%) that indicated that a protocol/algorithm that is in place at their facility include an individually formed procedure initiated by the physician (n = 1, 33.3%), the dietitian (n = 1, 33.3%), and collaboration within an interdisciplinary team (n = 1, 33.3%) as indicated in figure 6. In figure 7, many of the participants (n = 8, 80.0%) indicated that they felt their facility would benefit from having a protocol/algorithm in place when transitioning from tube feeding to an oral feeding. The remaining participants (n = 2, 20.0%) did not indicate the reason why they felt their facility would not benefit from having a protocol/algorithm in place.

In order to further assess the current transition practices in long-term facilities, figure 8 displays the participant's responses to the current practices utilized at their facilities. Overall the responses were very dispersed with many of the participants selecting multiple practices. The majority of responses selected included: providing a bolus tube feeding if the patient's PO intake is less than 50%, otherwise the feeding is held (n = 5, 50.0%), utilizing a 3-day Calorie Count to determine the patient's PO intake and the dietitian adjusts the tube feeding accordingly (n = 5, 50.0%), the patient receiving a PO diet throughout the day and a nocturnal tube feeding at night (n = 5, 50.0%), and a tube left in place for a minimum of 3 to 6 months with PO diet only, monitoring consumption rates/weight gain or loss, if stable, the tube is removed (n = 5, 50.0%). Additional responses included providing 3 meals per day and weight for a week, if they can

gain/maintain weight with appropriate intake then discontinue the tube feeding (n = 2, 20.0%) and no transitioning from a tube feeding to an oral diet (n = 1, 10.0%).

Collaboration among all disciplines and the role of the SLP in long-term care facilities were analyzed. In figure 9, participants were asked to select all applicable disciplines that they contacted or collaborated with in the facility for transitioning from the tube feeding to an oral diet. The majority of participants indicated that they contacted or collaborated with physicians (n = 10, 100.0%), nurses (n = 9, 90.0%), and registered dietitians (n = 8, 80.0%). Participants also indicated that they collaborated with the dietary manager (n = 3, 30.0%). Additional write in responses (n = 2, 20.0%) indicated that the participant collaborates with the occupational therapists and physical therapists as indicated and provided a report after a patient was evaluated. The SLP's role in providing input for changes in a diet when a patient is deemed safe for an oral diet are indicated in figure 10. Many of the participants indicated that they provided input for the patient's diet consistency (n = 10, 100.0%), texture (n = 9, 90.0%), and recommendations or NPO status (n = 7, 70.0%). Additional responses included input in the patient's diet (n = 4, 40.0%), tube feeding (n = 2, 20.0%), and other write-in responses (n = 2, 20.0%) included input in strategies or specific cups that can benefit oral intake, positioning, level of assistance, medication administration (e.g., in pureed, crushed, etc.).

Concerns may arise when transitioning a patient from a tube feeding to an oral feeding. Participants were asked if they any concerns arose during the transition. Figure 11 indicates that all participants felt that problems arose (n = 10, 100.0%), while figure 12 indicates the problems that the participants observed. Most of the participants reported decreased appetite (n = 4, 40.0%) and weight loss (n = 3, 30.0%) as the patient's concern, while another reported dehydration (n = 1, 10.0%). Two participants (n = 2, 20.0%) indicated that they felt that

decreased appetite, weight loss, dehydration and malnutrition were all factors that patients faced when transitioning from a tube feeding to an oral feeding.

Table 8 displays a summary of participant's comments or suggestions when transitioning a patient from a tube feeding to an oral feeding. Participant responses varied in regard to interdisciplinary collaboration, consistent monitoring of the patient's nutritional status, and ensuring that the patient's health and safety remains a priority.

CHAPTER IX

SUMMARY AND CONCLUSION

The purpose of this study is to determine whether long-term care facilities utilize a protocol or algorithm when transitioning a patient from a tube feeding to an oral feeding to decrease the risk of malnutrition and other nutrition and hydration deficiencies (i.e., dehydration, decreased oral intake, malnutrition, weight loss). This research was conducted in order to assess the availability and implementation of a transitional feeding protocol or algorithm, from EN to an oral feeding, in a long-term care facility and the role of the SLP during this transition.

Discussion

Participants in study reported different transition plans for patients from a tube feeding to an oral feeding in their facilities; however, a consistent plan was not in place. As indicated in the results, the participants in this study all agreed that when transitioning patients there are problems that arise such as decreased oral intake, weight loss, dehydration, and malnutrition and found that the initiation of a protocol or algorithm would be beneficial to have in their facility.

Interdisciplinary collaboration between the SLP and healthcare team is once such element. Participants in the study reported that they collaborate with the physician, nurse, and RDN; but, not all of the participants selected all three disciplines during the transition process. Communications among these disciplines are transitioning towards electronic communication, but some participants mentioned in the survey that they are still using a paper system. Recent

research highlights consistent collaborations between the team such as with RDN and SLP leads to successful patient outcomes (Heiss, Goldberg, & Dzarnoski, 2010). This also includes reviewing of the patient's medical information such as meal intake and tolerances, diet order, and supplements. The majority of the facilities surveyed revealed they do not use a specific protocol or algorithm. Scholarly research recommendations indicate that the implementation of a specific algorithm would be beneficial in order to decrease the risk of weight loss, decreased oral intake of meals, dehydration, and malnutrition. Currently, facilities are using a variety of transitions, that are not consistent or feasible to improve the patient's nutrition status.

An algorithm for a proposed interdisciplinary team plan for transitioning adults from a tube feeding to an oral feeding (Figure 13) was developed as a result of this thesis utilizing the ASPEN Safe Practices for Enteral Nutrition Therapy (Table 4) as a guide. The process begins with the collaboration among an interdisciplinary team consisting of a physician, nursing staff, RDN, SLP, occupational therapist (OT), and physical therapist (PT). This team, along with the patient and/or family will first discuss and determine the readiness of transitioning from a tube feeding to an oral feeding. In figure 13, two disciplines, the SLP and RDN are the focus of the transition process. Continuous communication between these disciplines incorporate open ended timeframes in order to provide optimal individualized care.

In addition to the patient's oral feeding readiness, the SLP and RDN will monitor the patient's hydration status, weight changes, symptoms of poor intake (lack of appetite, modified diet, nausea, vomiting, decreased ability to chew and swallow, depression/anxiety) when progressing from pleasure feedings to full meal feedings. Additional intervention would include any or all of the following: food records (monitoring of the patient's oral intake), encouragement

of fluids, monitoring of weight changes, and addition of supplements as additional recommendations from the SLP and RDN.

The role of the SLP is to conduct or refer a patient out for diagnostic testing (i.e., FEES, MBSS) to determine the safest diet texture, liquid consistency, and compensatory strategies, if necessary. Further intervention such as meal observations with pleasure feedings and full meal feedings should be conducted by the SLP to monitor for signs and symptoms of aspiration. The SLP will initiate pleasure feedings for an indicated number of meals per day, communicate with the RDN on the progress of the tolerance of oral feedings and report poor oral intake symptoms. The RDN will then review documented meal intakes, weekly weight changes, and adjust the tube feeding accordingly. If the patient maintains a meal intake greater than 50%, the patient will be advanced to full meal feedings as indicated by the SLP for a certain number of meals per day. If the patient displays a poor oral intake, the SLP will communicate concerns with the RDN to initiate an oral supplement and adjust the tube feeding. As the patient's meal intake exceeds 50%, the process to discontinue the tube feeding will commence. At any time during the advancement of the feedings during the transition any signs or symptoms are present, the SLP will determine if the patient needs a downgrade of the diet, holding of the oral feedings, and re-visit the readiness and transition with the interdisciplinary team.

Discontinuation of the tube feeding will be conducted if several factors are met for at least three to six months. This includes but is not limited to weight stability and/or positive weight gain/loss, meal intake maintained greater than 50%, improvement or maintenance of hydration status, absence of poor oral intake symptoms, with the SLP continuously following up and re-assessing as indicated. If this criterion is not met, the SLP will address the concerns with the interdisciplinary team to re-initiate the patient's readiness to resume the transition process.

This proposed algorithm includes collaboration among an interdisciplinary team, specifically with an SLP and RDN, to initiate an individualized plan to transition a patient from a tube feeding to an oral feeding. With the varied information reported from the participants in this study, future research paths for this structured algorithm will include an experimental study in order to confirm the benefits of the use of a structured algorithm.

Recommendations

This study found that there are various transition practices in facilities when transitioning patients from a tube feeding to an oral feeding. These practices do not signify an established plan of care prior to the initiation of the transition. Implementing a plan of care for all patients receiving nutrition support through the use of an algorithm allows for consistent care incorporating collaboration among disciplines and adequate re-assessing to modify tube feedings and oral diets. Further studies incorporating the use of an algorithm in long-term care facilities is recommended to assess the nutrition status and tolerance of an oral diet in patients.

Limitations

There were a few limitations in this study related to the composition of the sample of participants and increased time frame waiting for approval for this study from the Institutional Review Board (IRB). First, participants were limited to the alumni from UTRGV and UTPA communication and sciences disorders program working in long-term care facilities. A larger number of survey responses would have been possible if the sample size was not limited to only the alumni group. By expanding the geographical size, a more representative sample of the practices in long-term care facilities would have been obtained. Future research would focus on widening

the sample of the SLP population outside of the alumni in addition to other disciplines and groups without the restriction of the need of a letter of support as required by the UTRGV IRB.

Secondly, there was a limited amount of time to disperse surveys to participants in this study. Although corrections were requested following the initial submission of the IRB application, the response for approval for the study was received approximately three months later. Therefore, the amount of time allotted to distribute and collect responses from the participants was limited which may have contributed to the low number of responses. Surveys were initially distributed during the winter break and holiday season, therefore limiting responses to the survey. Although continued follow-ups were conducted before receiving approval to conduct the study, in the future the initial applications submitted for research will be more thorough and complete.

Lastly, due to the limited research that is available for long-term care facilities when transitioning from a tube feeding to an oral feeding, survey questions were developed by the researcher based on studies found in related areas rather than sample existing surveys. Additionally, future studies it would be beneficial to expand on questions from the survey utilized in this study. For instance, participants in the study were asked to provide suggestions and comments regarding the topic of this study. In relation to their comments and the progression to the development of a protocol or algorithm, one participant stated, “care plans with the presence of the corresponding physicians, as they usually take some time to give a transition to p.o.” Another participant stated that, “it is best to keep the patient’s utmost welfare in mind and understand that patient health and safety is priority. Lastly, a participant in this study indicated that “team approach including the patient and family/caregiver,” should be included in this

transition plan. Overall, care plans established in a timely manner, safety of the patient, and team approach are three things that should be looked into a little further.

Future Studies

In addition to suggestions brought up by the participants, research should be conducted to expand on findings from this study. First, researchers should expand the sample size of SLPs working in long-term care facilities. The inclusion of other disciplines in the survey process would also be beneficial to establish a more effective individualized care plan. Additionally, an effective team approach established with the patient and family/caregiver may provide effective results in a timely transition. Secondly, with an expansion of the sample size and an addition of survey questions to evaluate the current practice in facilities, there is a better chance to gain an understanding of current practices in long-term care facilities. Finally, experimental research should be conducted to test the process of an established protocol/algorithm in long-term care facilities. With this proposed experiment for a future study, expanding the survey to other disciplines would be beneficial in incorporating other discipline's roles in the protocol/algorithm. Based on survey findings a multidisciplinary plan of care would be established to hypothesize the effectiveness of utilizing a protocol/algorithm for patients transitioning from a tube feeding to an oral feeding. A proposed algorithm developed by the author utilizes the incorporation of interdisciplinary collaboration in conjunction with ASPEN's Safe Practices for Enteral Nutrition Therapy (Table 2). The patient's safety is always a top priority. By gaining a view of the team approach and establishing the patient's safety and readiness to transition, implementing an optimal individualized care plan with the team using a protocol or algorithm is a start in future research.

Conclusion

Re-establishing oral feedings is an important factor in increasing the quality of life for patients. This study provided evidence that without an established protocol or algorithm in long-term care facilities, patients are at high risk of decreased oral intake, dehydration, weight loss, and malnutrition when transitioning from a tube feeding to an oral feeding. SLPs are a key discipline in this transition with the collaboration with other disciplines to decrease these risks. With effective communication, a consistent, yet individualized plan of care can be established. With continued research with the development of a protocol/algorithm when transitioning patients from a tube feeding to an oral feeding and with the input of long-term care SLPs and the collaboration with other disciplines, transitioning adults from tube feedings.

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APPENDIX A

APPENDIX A

TABLES AND FIGURES

Table 1: Glossary of Terms

Academy of Nutrition and Dietetics (AND): “World’s largest organization of food and nutrition professionals. There are over 100,000 credentialed practitioners — registered dietitian nutritionists, dietetic technicians, registered, and other dietetics professionals holding undergraduate and advanced degrees in nutrition and dietetics, and students — and is committed to improving the nation’s health and advancing the profession of dietetics through research, education and advocacy.” (About Us, n.d.)

Algorithm: “A step-by-step formula or set of rules for solving a problem. It is a schematic representation of the decision-making process composed of flow diagrams with branching pathways that lead to some desired outcome. Algorithmic decision making requires the nurse to evaluate a patient’s condition using a set of questions with ‘yes’ or ‘no’ answers. A ‘yes’ answer leads to one branch of the decision tree, a ‘no’ answer to another. The process leads to a recommended action.” (Vernes, 2005 & Hadorn, McCormick, & Diokno, 1992)

American Society for Parenteral and Enteral Nutrition (ASPEN): “An interdisciplinary organization whose members are involved in the provision of clinical nutrition therapies, including parenteral and enteral nutrition. ASPEN is a community of dietitians, nurses, pharmacists, physicians, scientists, students, and other health professionals from every facet of nutrition support clinical practice, research, and education.” (ASPEN: Leading the Science and Practice of Clinical Nutrition, n.d.)

American Speech-Language-Hearing Association (ASHA): “A national professional, scientific, and credentialing association for audiologists; speech-language pathologists; speech, language, and hearing scientists; audiology and speech-language pathology support personnel; and students.” (About the American Speech-Language-Hearing Association (ASHA), n.d.).

Aspiration: “Entry of secretions, food, or any foreign material into the airway that travels below the level of the true vocal folds. Aspiration may occur before, during, or after the pharyngeal phase of swallowing. It can also occur from reflux of gastric contents.” (ASHA Glossary, n.d.)

Bolus feeding: “A tube feed that is given like a meal. Typically, a larger amount is given in a short period of time, usually less than 30 minutes. There is often a break, lasting hours between feeds. Bolus feeds can be administered by syringe, gravity bags or a feeding pump. They can be pushed in by syringe or the pump— or allowed to flow in at a comfortable rate by gravity.” (Types of Feeding Tubes and Terms to Know by the Feeding Tube Awareness Foundation, 2013, October 31)

Cachexic: “General physical wasting and malnutrition usually associated with chronic disease.” (Cachexia, n.d.).

Centers for Medicare and Medicaid Services (CMS): “Is the agency in the U.S. Department of Health and Human Services that runs the Medicare program and works with states to run the Medicaid program.” (ASHA Glossary, n.d.)

Continuous feeding: “A tube feed that is slowly dripped in using a feeding pump. It runs over longer periods of time, either overnight or for many hours per day.” (Types of Feeding Tubes and Terms to Know by the Feeding Tube Awareness Foundation, 2013, October 31)

Dehydration: “A complex condition resulting in a loss of total body water, with or without salt, at a rate greater than the body can replace it. Dehydration is one form of a fluid and electrolyte imbalance.” (Healthy Hydration, n.d.)

Dysphagia: “A swallowing disorder. The signs and symptoms of dysphagia may involve the mouth, pharynx, larynx, and/or esophagus.” (ASHA Glossary, n.d.)

Dysphagia Diet: “Oral diet modified in food properties, such as texture or viscosity, to meet the needs of a particular dysphagic individual. Optimally prescribed after instrumental assessment to compensate for identified physiologic and/or structural swallowing abnormalities, which impact the ability to tolerate a regular texture diet. Often prescribed in "stages" designed to facilitate safety, while potentially advancing a patient toward a more "regular" texture.” (ASHA Glossary, n.d.)

Enteral nutrition (EN): “Referred to as "tube feeding," enteral nutrition is the delivery of nutrients through a nasogastric, gastrostomy or jejunostomy tube to the stomach or small intestine when an individual: is too ill to eat enough calories orally to maintain nutritional status, has a decreased appetite, has difficulty swallowing, or has had surgery that interferes with the ability to eat. Enteral nutrition can be given as bolus feeding, continuous feeding or a combination of both.” (Enteral Nutrition, n.d.).

Long-Term Acute Care Facility (LTAC): “Facilities that specialize in the treatment of patients with serious medical conditions that require care on an ongoing basis but no longer require intensive care or extensive diagnostic procedures. These patients are typically discharged from the intensive care units and require more care than they can receive in a rehabilitation center, skilled nursing facility, or at home.” (Long-term Acute Care Hospitals, n.d.)

Long-Term Care Facilities: “Nursing homes, skilled nursing facilities, and assisted living facilities, (collectively known as long-term care facilities, LTCFs) provide a variety of services, both medical and personal care, to people who are unable to manage independently in the community.” (Nursing Homes and Assisted Living (Long-term Care Facilities [LTCFs]), (2017, February 28)

Malnutrition: “An acute, subacute or chronic state of nutrition, in which a combination of varying degrees of overnutrition or undernutrition with or without inflammatory activity have led to a change in body composition and diminished function.” (Soeters, Schols, 2009)

Nursing Home: “An Intermediate Care Facility or ICF, provides a room, meals, and help for individuals with activities of daily living needs. Residents living in a nursing home usually have physical or memory problems that keep them from living on their own.” (What are Skilled Nursing Facilities? Defining Nursing Homes and Skilled Nursing Facilities, n.d.)

Nutrition: “Nutrition is defined as the ‘science of food, the nutrients and other substances therein, their action, interaction and balance in relation to health and disease, and the process by which the organism ingests, absorbs, transports, utilizes and excretes food substances’.” (Lagua, 2012)

Oral Intake: “Placement of food in the mouth; oral gestures used to prepare food for the swallow and gain pleasure from eating; and, tongue movement to initiate the oral stage of the swallow. This sometimes also refers to the amount of food or liquid the individual is able to take in by mouth.” (ASHA Glossary, n.d.)

Percutaneous endoscopic gastrostomy (PEG): “PEG specifically describes a long G-tube placed by endoscopy, and stands for percutaneous endoscopic gastrostomy. Sometimes the term PEG is used to describe all G-tubes.” (Types of Feeding Tubes and Terms to Know by the Feeding Tube Awareness Foundation, 2013, October 31)

Registered Dietitian and Nutritionist (RDN): “A person who is trained in the science of nutrition and dietetics. Dietitians provide food and nutrition services to individuals and groups in a variety of settings. Dietitians may work in specialty areas, for example specializing in weight management counseling, oncology or pediatrics, and their training and experience governs the setting in which they practice.” (Anderson, 2013)
Registered Nurse (RN)

Skilled Nursing Facility (SNF): “Similar to “a nursing home and many times the terms used are one in the same, but a true skilled nursing facility may offer more "skilled" medical expertise and services. Yet, a SNF provides skilled nursing care and/or rehabilitation services to help injured, sick, or disabled individuals to get back on their feet.” (What are Skilled Nursing Facilities? Defining Nursing Homes and Skilled Nursing Facilities, n.d.)

Speech Language Pathologist (SLP): “Are professionals that work to prevent, assess, diagnose, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults.” (The Profession of Speech-Language Pathology, n.d.).

Supplement (oral): “An oral nutritional supplement is a food item consumed to manage calories, protein or other nutrient(s) to enhance nutritional quality; the supplement could be a meal replacement, a part of a meal or consumed as a snack. Examples: Commercial ready-to-use beverages or powdered products to be reconstituted with milk/milk substitute or water, portion-controlled meals, puddings, soups or bars.” (Anderson, 2013)

Thickener: “Extracted primarily from natural substances, stabilizers, thickeners and gelling agents are approved direct additives incorporated into foods to provide structure, viscosity, stability and other qualities, such as maintaining existing color. Thickeners, stabilizers and gelling agents are classified separately but overlap in functionality. When dissolved or added to foods, they create stiffness, stabilize emulsions or form gels. Thickeners range from flavorless powders to gums and are chosen for their ability to work in a variety of chemical and physical conditions. Variables affecting choice of thickener include pH, frozen state, clarity and taste. Starches, pectin and gums are the most common commercial thickeners used in soups, sauces and puddings.” (Stabilizers, Thickeners and Gelling Agents, 2017, November 30)

Transitional Feeding: “Transitioning a patient from parenteral or enteral nutrition to an oral diet while maintaining adequate nourishment.” (Grossman, & Bautista, 2001)

Table 2: Factors associated with increased and decreased risk of malnutrition (Source: Bell, Lee, & Tamura, 2015)	
Increased risk of malnutrition:	Decreased risk of malnutrition:
Functional impairment Dementia or cognitive impairment Swallowing problem Depression or apathy Less frequent weight checks by staff Low facility daily food budget Social isolation Wound or pressure ulcer Recently hospitalized Receiving nutritional intervention Poor food intake Cardiovascular disease Stroke Smaller facility size African-American race	Additional meals provided by family Higher staff ratios Activities of daily living independence Higher Mini-Mental Status Exam Score High BMI

Table 3: Conditions Where Gastrostomy Feeding is Considered	
Neurological indications	Obstruction
Cerebrovascular disease	Oropharyngeal cancer
Motor neuron disease	Oesopharyngeal cancer
Multiple sclerosis	Oesophageal stricture
Muscular dystrophy	
Parkinson's disease	<u>Miscellaneous</u>
Cerebral palsy	Burn patients
Dementia	Fistulae
<u>Reduced conscious level/cognition</u>	Cystic fibrosis
Head injury	Short bowel syndromes (e.g., Crohn's disease)
Intensive care patients	Mental heal (Anorexia/Learning difficulties)

Table 4: ASPEN Safe Practices for Enteral Nutrition Therapy: What is the best way to transition from EN to oral feeding? (Source: Boullata et al., 2017)

1. Identify a safe oral feeding regimen through discussion with interdisciplinary team members, including speech and language specialists who evaluate swallowing and aspiration risk with various food consistencies. Provide an individualized diet with necessary modifications in the initial stages of oral intake.
2. Transition continuous EN to an intermittent schedule when clinically appropriate. Provision of either partial or full EN via this intermittent regimen will depend on the nutrition needs and status of the patient.
3. Coordinate oral feedings with times when EN is off to help stimulate appetite. Consider intermittent EN feedings that are administered as a supplement after a meal is consumed and/or continuous feedings at night.
4. Establish a consistent meal routine.
5. Document the percentage of food consumed at each meal or snack. Ideally, the type and amount of food are also recorded.
6. Document any identified issues with oral consumption.
7. Involve the patient and/or family members in food and oral supplement preferences regarding oral diet advancement.
8. Monitor swallowing performance, nutrition and hydration status, and respiratory complications with adjustment of EN as appropriate.
9. Consider a trial of eliminating the EN regimen when the patient is able to meet the majority of energy needs with oral intake.
10. Obtain weights at least weekly to ensure adequate caloric intake to meet weight goals.

Table 5: National Dysphagia Diet (NDD)		
NDD Level 1: Dysphagia-Pureed	Homogenous, very cohesive, pudding-like, requiring very little chewing ability	<ul style="list-style-type: none"> • Smooth homogenous cooked cereals • Pureed: meats, starches (like mashed potatoes), and vegetables with smooth sauces without lumps • Pureed/strained soups • Pudding, soufflé, yogurt
NDD Level 2: Dysphagia-Mechanical Altered	Cohesive, moist, semisolid foods, requiring some chewing	<ul style="list-style-type: none"> • Cooked cereals with little texture • Moistened ground or cooked meat • Moistened, soft, easy to chew canned fruit and vegetables
NDD Level 3: Dysphagia-Advanced	Soft foods that require more chewing ability	<ul style="list-style-type: none"> • Well moistened breads, rice, and other starches • Canned or cooked fruit and vegetables • Thin sliced, tender meats/poultry
NDD Level 4: Regular	All foods allowed	<ul style="list-style-type: none"> • No restrictions

Table 6: Key Elements of the IDDSI Framework

- The final international framework consists of eight levels (0 to 7) and includes both foods and liquids on a single continuum.
- Levels are identified by numbers, text labels, and color codes to facilitate uptake in a variety of settings. Detailed descriptors are provided.
- The IDDSI Flow Test and Fork Test are practical, objective tests of consistency that can be used to distinguish between levels.
- Level 3 includes moderately thick liquids and liquidized foods, which share similar flow characteristics.
- Level 4 includes extremely thick liquids and puréed foods, which share similar flow characteristics.
- A category for transitional foods is provided.
- It is not expected that all levels will be offered in every setting. For example, level 1 (slightly thick liquids) will have particular utility in pediatric settings. Although this level may also prove suitable for other patient/client groups, it may not be offered in all health-care facilities.

Table 7: Survey Questionnaire: Transitioning Adults from a Tube-Feeding to an Oral Feeding in Long-Term Care Facilities

Q1. This survey is being conducted by Patricia Mejorado, a graduate student from the Communication Sciences and Disorders department at The University of Texas Rio Grande Valley (email: patricia.mejorado01@utrgv.edu).

The purpose of this study is to investigate the use of transitional feeding protocols and algorithms, from a tube-feeding to an oral feeding, as well as interdisciplinary collaboration in long-term care facilities (i.e., LTAC, Nursing Home, Skilled Nursing Facility, etc.).

This survey should take about 5-10 minutes to complete.

Participation in this research is completely voluntary, you may choose not to participate without penalty. If there are any individual questions that you would prefer to skip, simply leave the answer blank.

You must be at least 18 years old to participate. If you are not 18 or older, please do not complete the survey.

You must currently be working in a long-term care facility (i.e., Long-Term Acute Care, Nursing Home, Skilled Nursing Facility etc.). If you are not working in a long-term care facility, please do not complete the survey.

All survey responses that we receive will be treated confidentially and stored on a secure server. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in our study, we want you to be aware that certain technologies exist that can be used to monitor or record data that you enter and/or websites that you visit.

Any individually identifiable responses will be securely stored and will only be available to those directly involved in this study. De-identified data may be shared with other researchers in the future but will not contain information about your individual identity.

This research has been reviewed and approved by the Institutional Review Board for Human Subjects Protection (IRB). If you have any questions about your rights as a participant, or if you feel that your rights as a participant were not adequately met by the researcher, please contact the IRB at (956) 665-2889 or irb@utrgv.edu.

- a. I consent to participate in this survey
- b. I do not wish to participate

Q2. How long have you practiced as an SLP in a long-term care facility?

- a. <5 years
- b. 6-10 years
- c. 11-15 years
- d. 16-20 years
- e. 21 years and up

Q3. Which program do you currently use to document your notes (Electronic Medical Record)?

Q4. Do you have access to a patient's meal intake, diet orders, supplements, etc. from this program?

- a. Yes
- b. No

Q5. How do you access a patient's meal intake, diet orders, supplements, etc.? (Check all that apply)

- a. Ask the patient's nurse
- b. Ask the CNA
- c. Ask the dietary staff
- d. Ask the family members/friends
- e. Ask the patient
- f. Other: _____
- g. None of the above

Q6. Does your facility currently have a protocol or algorithm in place when transitioning from a tube-feeding to an oral diet?

- a. Yes
- b. No

Q7. Which type protocol or algorithm that your facility have in place?

- a. Facility approved procedure/protocol/algorithm
- b. Individually formed procedure initiated by the physician
- c. Individually formed procedure initiated by the nurse
- d. Individually formed procedure initiated by the SLP
- e. Individually formed procedure initiated by the Dietitian
- f. Other: _____

Q8. Do you feel that your facility would benefit from having a protocol or algorithm in place when transitioning from a tube feeding to an oral feeding?

- a. Yes
- b. No

Q9. To the best of your knowledge, has your facility utilized any of the following transitions from a tube feeding to an oral feeding? (Check all that apply)

- a. No transitioning from a tube feeding to an oral diet
- b. Provide a bolus tube feeding if the patient's PO intake is less than 50%, otherwise the feeding is held
- c. Utilize a 3-day Calorie Count to determine the patient's PO intake and the dietitian adjusts the tube feeding accordingly
- d. The patient receives a PO diet throughout the day and a nocturnal tube feeding at night

- e. Provide 3 meals per day and weight for a week. If they can gain/maintain weight with appropriate intake then discontinue the tube feeding
- f. Tube left in place for a minimum of 3 to 6 months with PO diet only, monitoring consumption rates/weight gain or loss, if stable, the tube is removed
- g. Other: _____
- h. None of the above

Q10. If a tube-fed patient is deemed safe for an oral diet, who do you contact or collaborate with in the facility for transitioning from the tube feeding to an oral diet? (Check all that apply)

- a. Physician
- b. Registered Dietitian
- c. Dietary Manager
- d. Nursing
- e. Other: _____
- f. None of the above

Q11. If a tube-fed patient is deemed safe for an oral diet, what input do you provide as an SLP in regard to changes in the patient's diet? (Check all that apply)

- a. Diet
- b. Texture
- c. Consistency
- d. Tube feeding
- e. NPO Status
- f. Other: _____
- g. None of the above

Q12. Are there any concerns that you see often arising when a patient transitions from a tube feeding to an oral diet?

- a. Yes
- b. No

Q13. What problems do you see arise when a patient transitions from a tube feeding to an oral diet?

- a. Dehydration
- b. Malnutrition
- c. Weight Loss
- d. Decreased appetite
- e. Other: _____

Q14. As a practicing SLP you have any suggestions or comments regarding the transition of adults from a tube feeding to an oral feeding?

Table 8: Participant's Suggestions or Comments Regarding the Transition of Adults from a Tube Feeding to an Oral Feeding

- Team approach including the patient and the family/caregiver
- Monitoring weight loss
- Care plans with the presence of corresponding physicians, as they usually take some time to give transition to PO only approval
- Difficulties with dementia patients
- It is best to keep the patient's utmost welfare in mind and understand that patient health and safety is priority
- Each patient is an individual and must take appropriate steps to determine what the patient can tolerate to maintain nutrition and hydration

Figure 1: Years Practiced in a Long-Term Care Facility

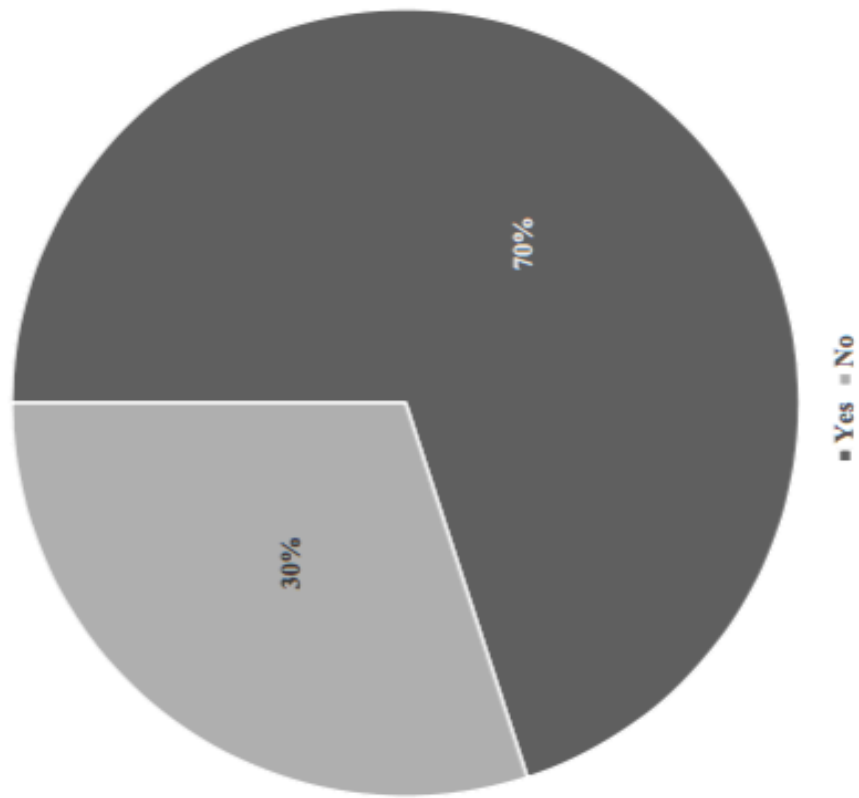


Figure 2: Program Utilized for Documentation

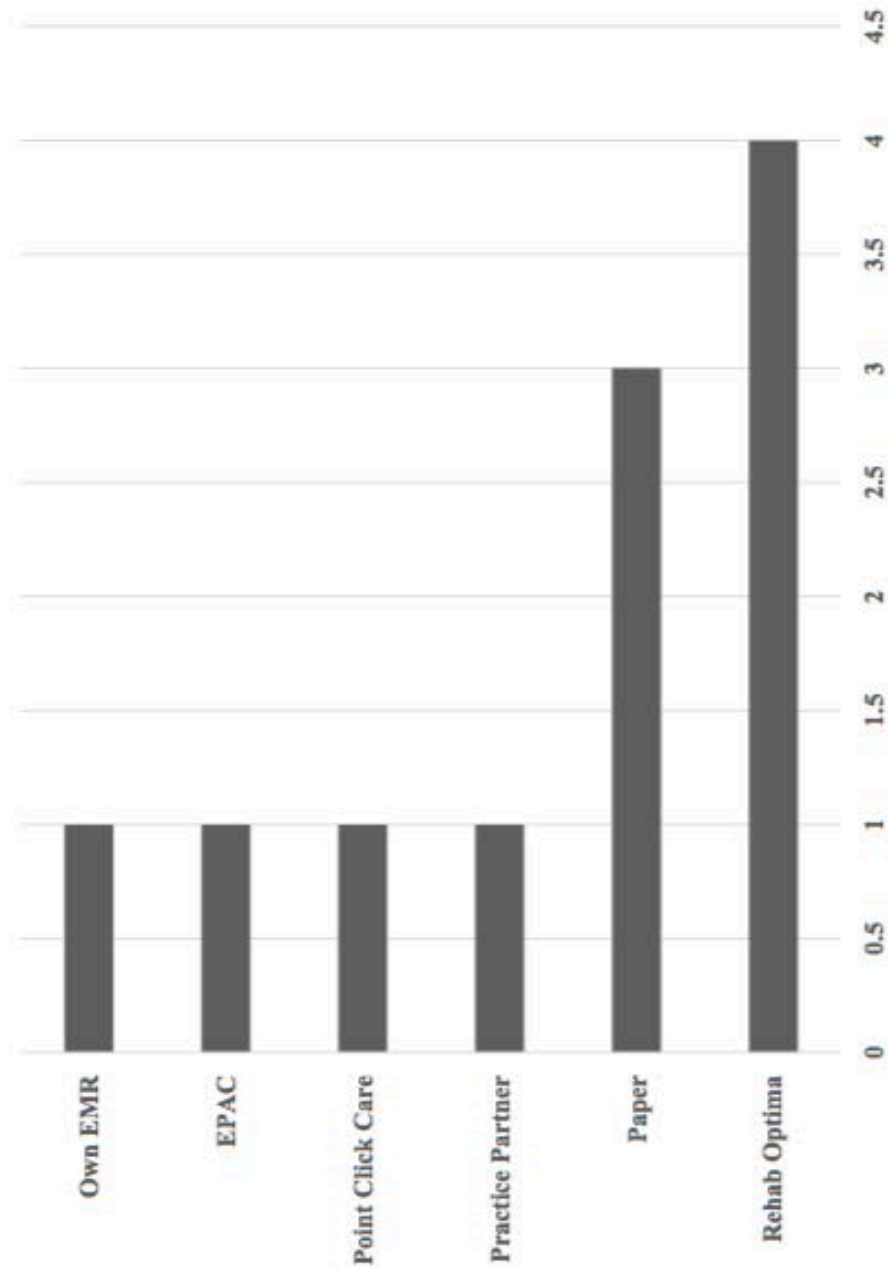


Figure 3: Accessibility to a Patient's Meal Intake, Diet Orders, Supplements, etc.

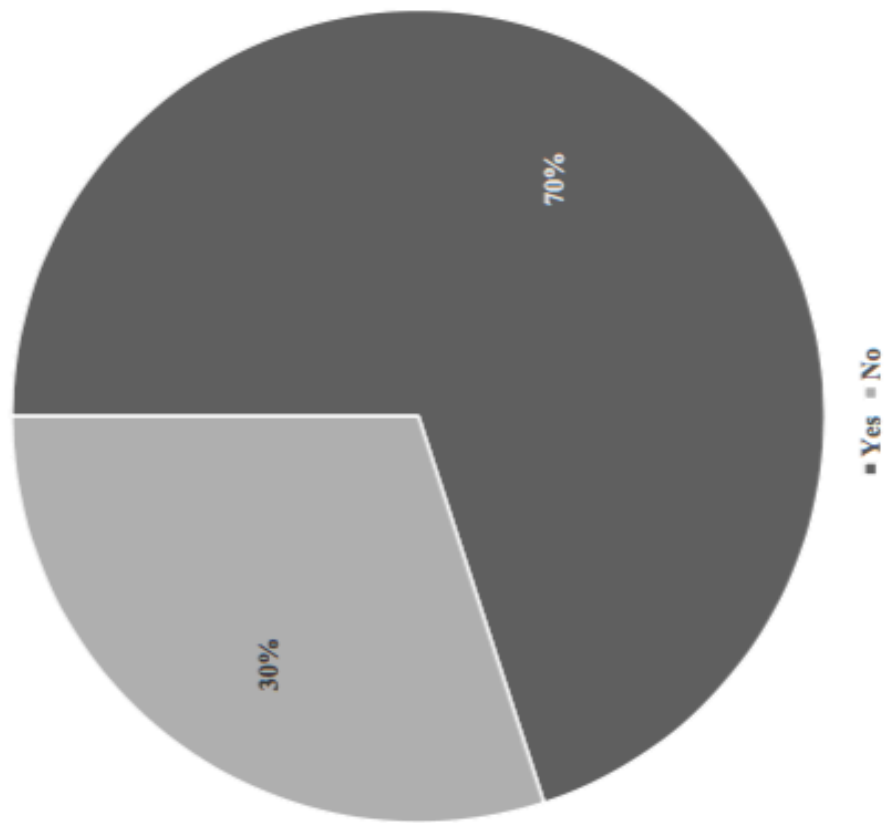


Figure 4: Method of Accessibility to a Patient's Meal Intake, Diet Orders, Supplements, etc.

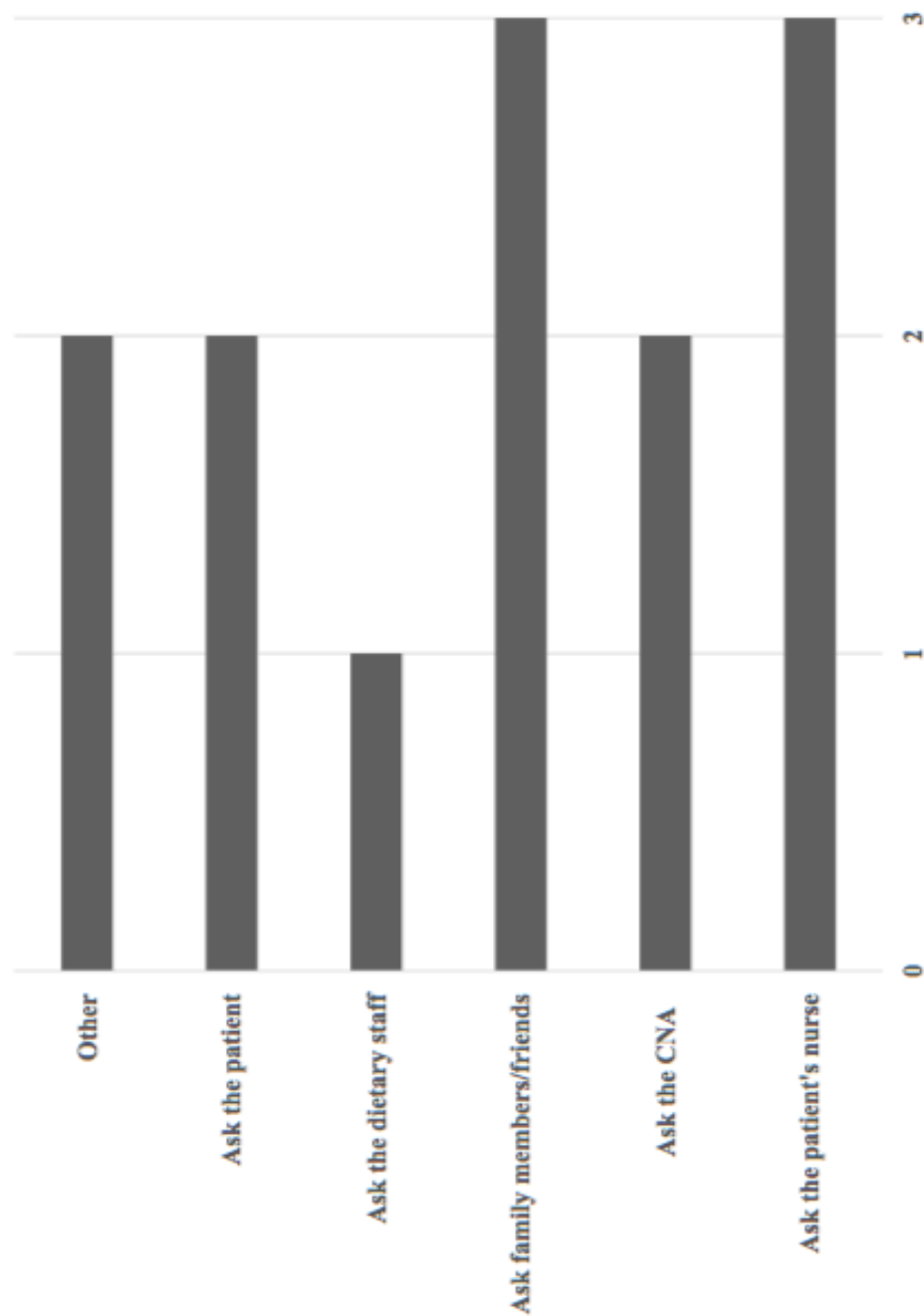


Figure 5: Does Facility have Protocol/Algorithm to Transition from a Tube Feeding to an Oral Feeding?

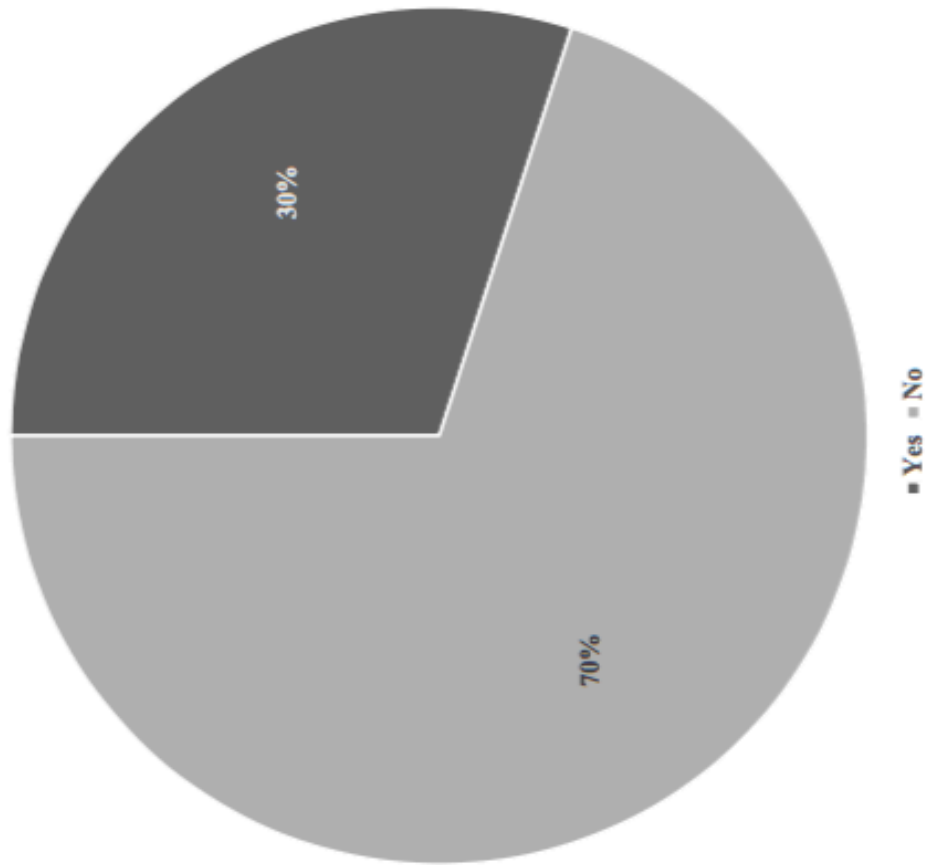


Figure 6: Type of Protocol/Algorithm in Facility to Transition from a Tube Feeding to an Oral Feeding

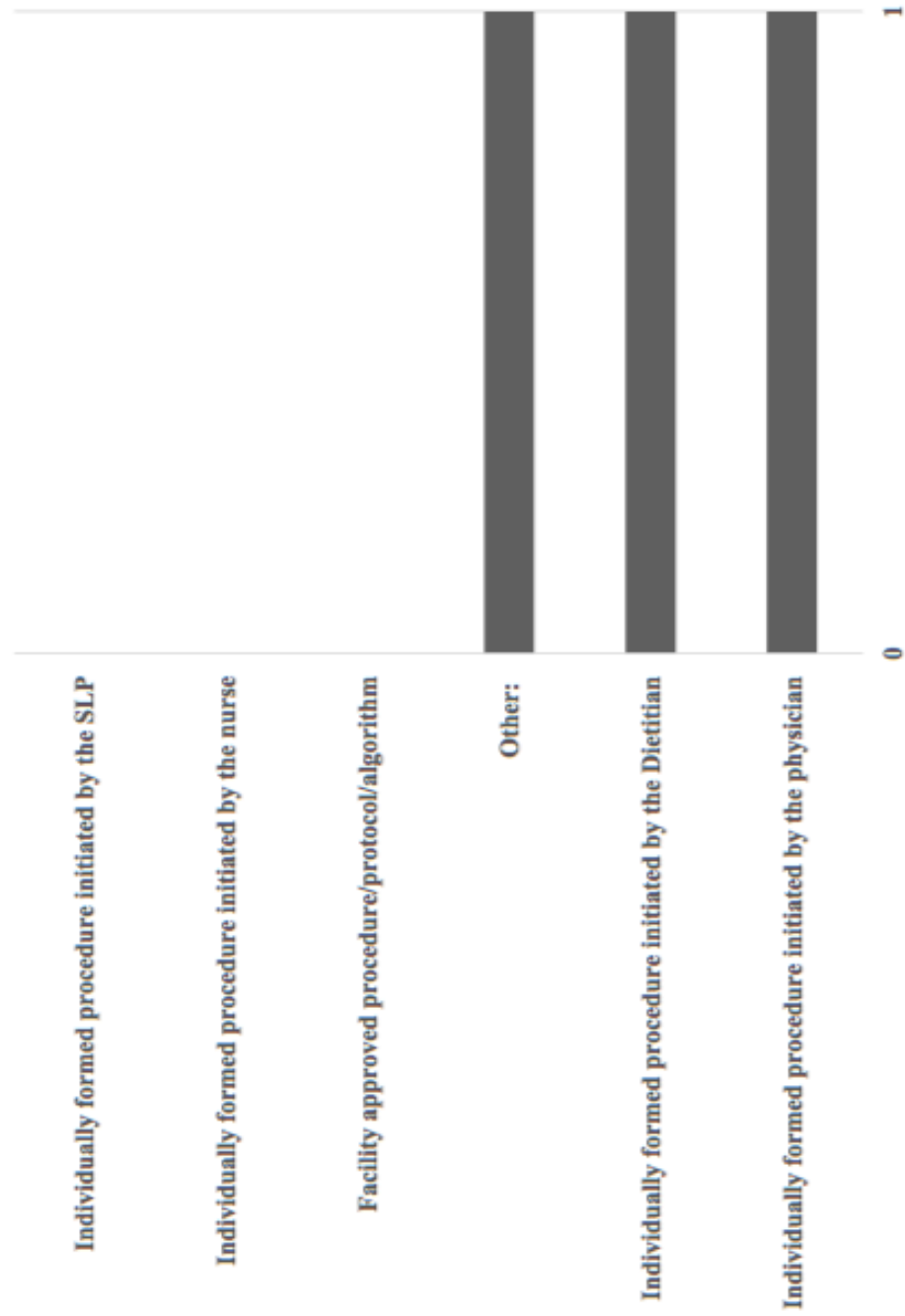


Figure 7: Would Facility Benefit From having a Protocol/Algorithm to Transition from a Tube Feeding to an Oral Feeding?

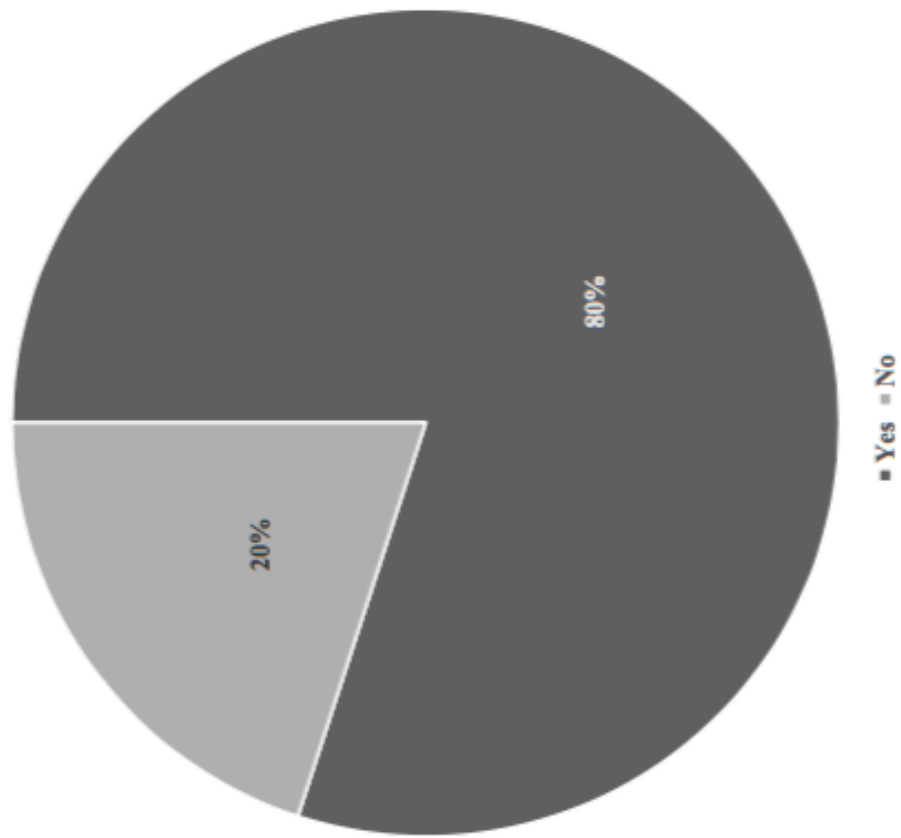


Figure 8: Current Practice of Transitioning from a Tube Feeding to an Oral Feeding in Facility

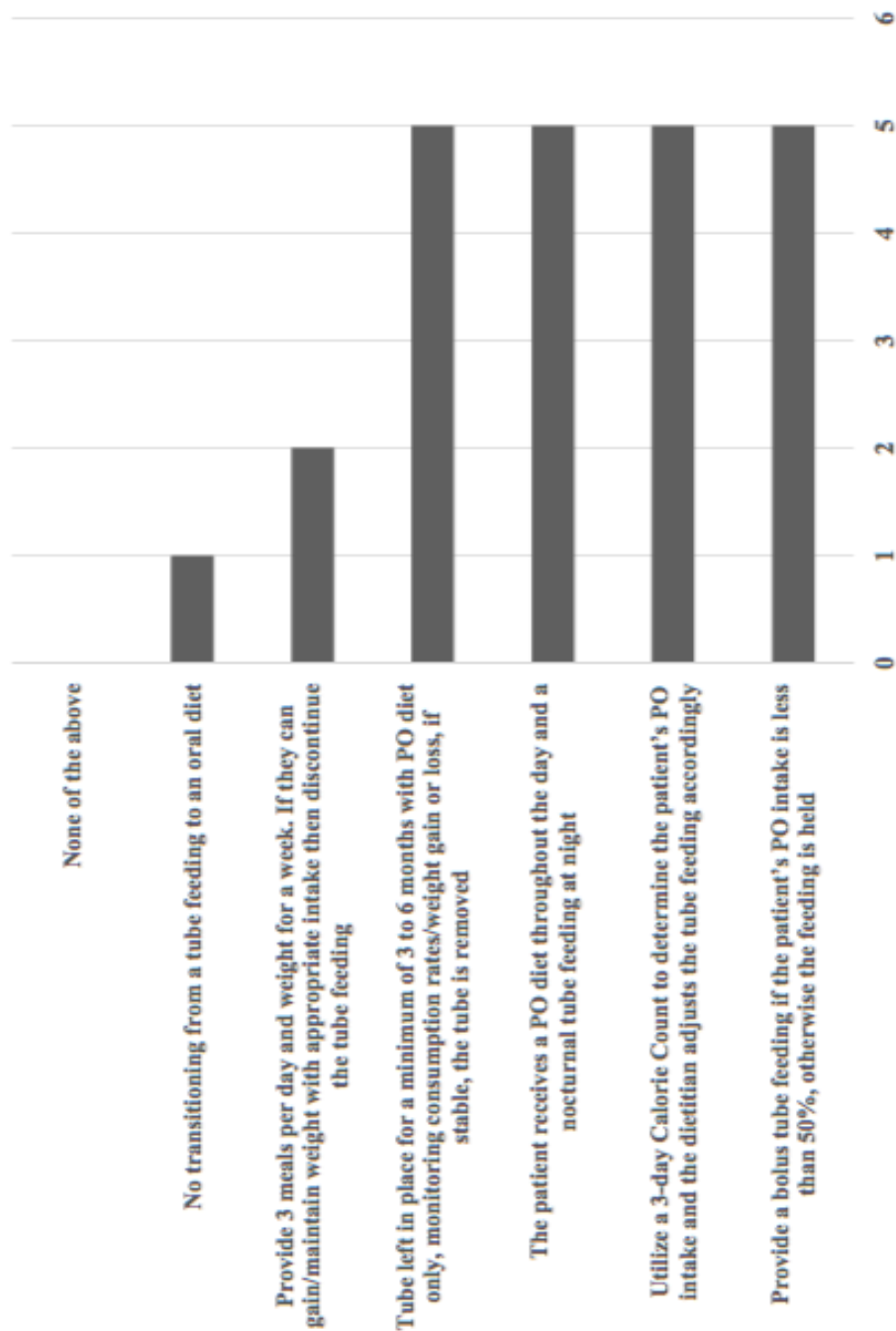


Figure 9: Collaboration When Transitioning from a Tube Feeding to an Oral Feeding

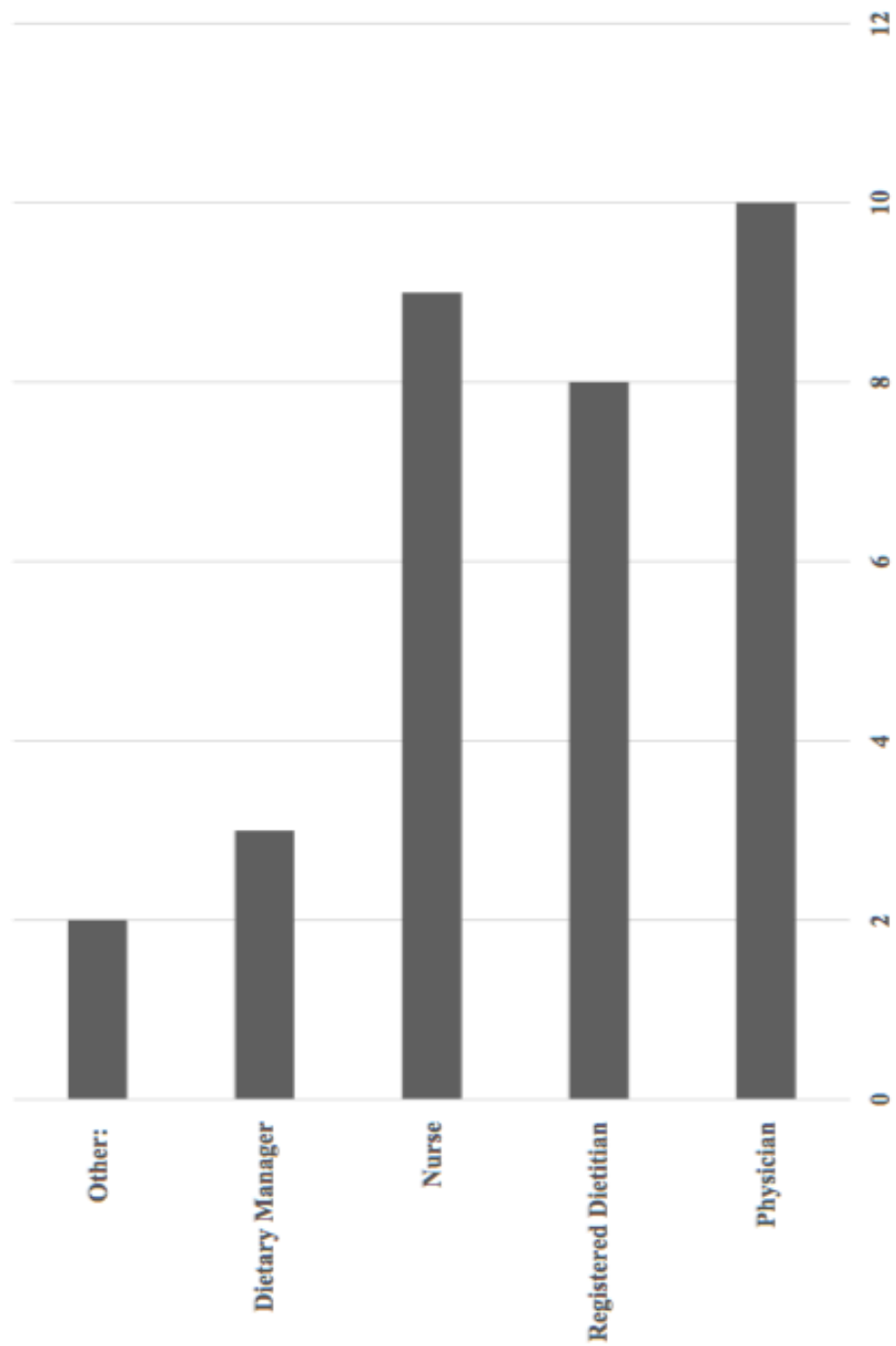


Figure 10: SLP's Input When Transitioning from a Tube Feeding to an Oral Feeding

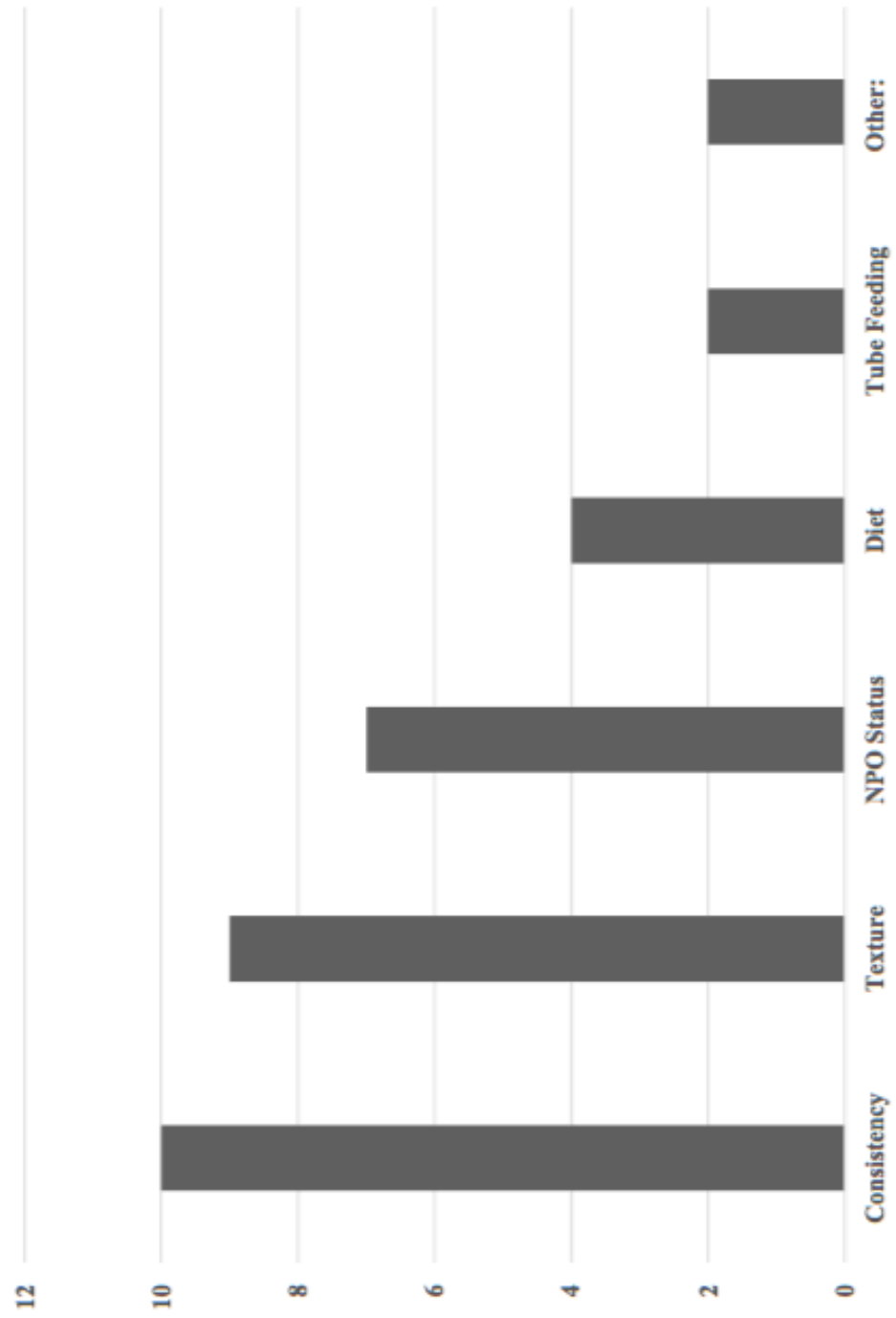


Figure 11: Are There Concerns when Transitioning from a Tube Feeding to an Oral Feeding?

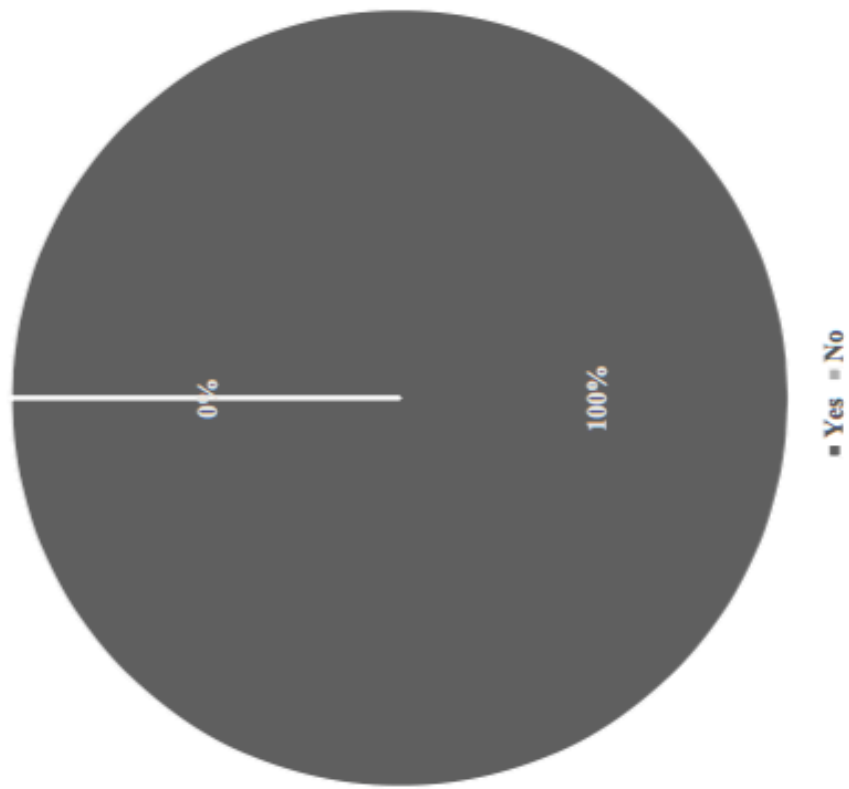


Figure 12: Problems Observed in Facility When Transitioning from a Tube Feeding to an Oral Feeding

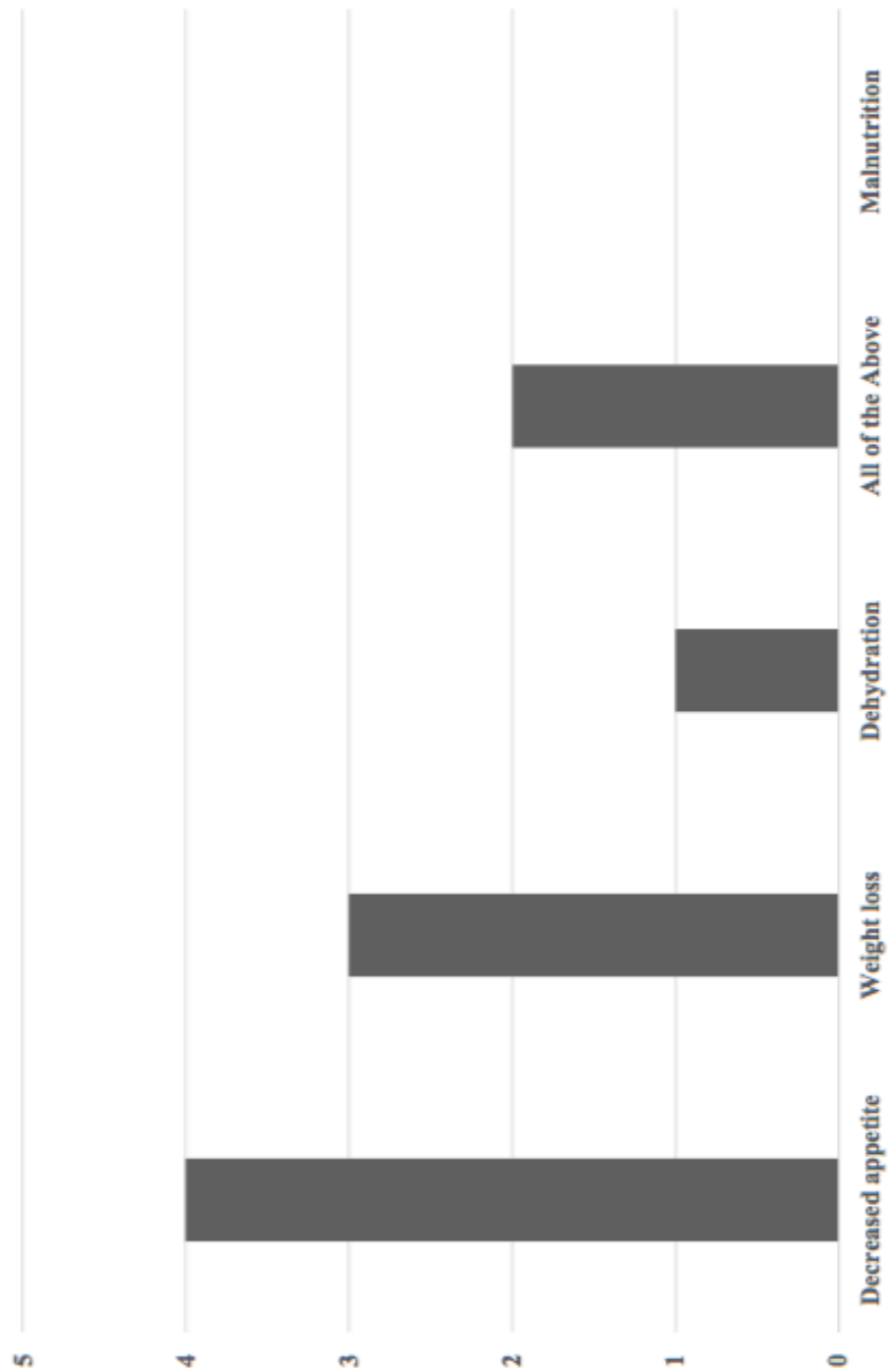
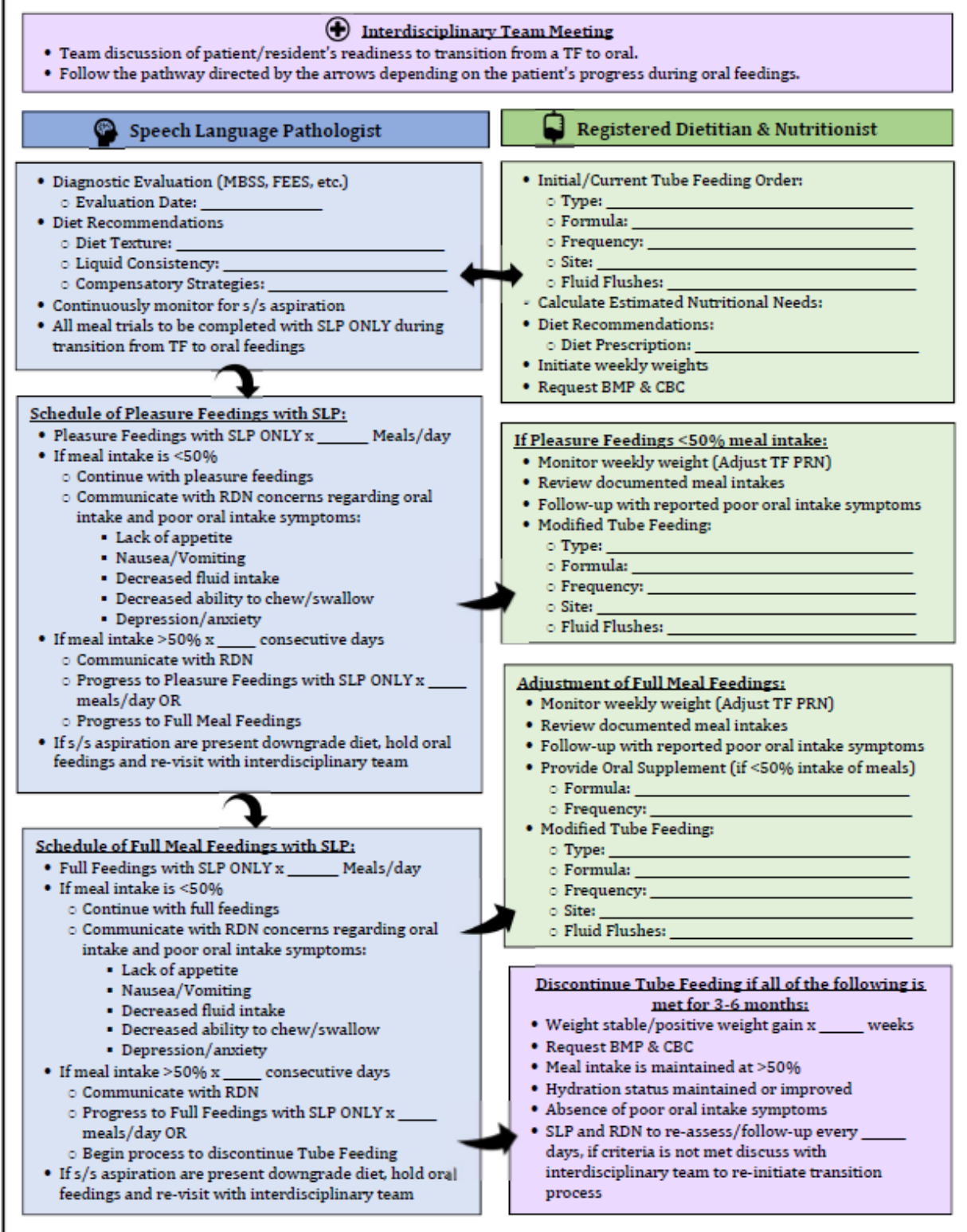


Figure 13: Proposed Interdisciplinary Team Plan for Transitioning Adults from a Tube Feeding to an Oral Feeding



BIOGRAPHICAL SKETCH

Ms. Patricia D. Mejorado was born and raised in Weslaco, Texas. She attended the University of Texas Pan American from 2001 to 2006, where she received a Bachelor of Science in Dietetics. She later attended the University of Texas Rio Grande Valley from 2013 to 2018 and obtained a Bachelor of Science in Communication Sciences and Disorders in 2016 and a Master of Science in Communication Sciences and Disorders in 2018. Patricia is a member of the American Speech-Language-Hearing Association and the Academy of Nutrition and Dietetics.

Patricia has worked as a Registered Dietitian and Nutritionist (RDN) for over ten years. Her professional experience is in the areas of acute care, long-term care (i.e. skilled nursing facilities), home health, and the migrant head start program. Her interests are in the areas of dysphagia, voice, and language disorders with adults and the geriatric population. She can be contacted at pattymejorado@gmail.com.